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Obstructive Lung Diseases

THE EFFECT OF CONJUGATED LINOLEIC ACID ON OXIDATIVE STRESS AND MATRIX METALLOPROTEINASES 2 AND 9 IN PATIENTS WITH COPD

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PURPOSE: Natural antioxidants in foods may be used in prevention and treatment of oxidative stress and inflammation in COPD. Therefore, this study aimed to evaluate the effect of conjugated linoleic acid (CLA) supplement as natural antioxidants on oxidative stress levels, and MMP2 and MMP9 serum levels in COPD patients.

METHODS: This clinical trial study was conducted on 90 (supplement and control group) COPD patients. After obtaining written consent, general information was collected from each patient using a validated and reliable questionnaire. Supplement group received 3.2 g of CLA and those in the control group were given 3.2 g of placebo for 6 weeks on a daily basis.Fasting blood samples were taken from all of the patients for testing of malondialdehyde, MMP2 and MMP9 levels at the beginning and end of the study.

RESULTS: There were no significant differences between the two groups with regard to mean age, smoking status, and serum level of MDA at the beginning of the study. In the supplement group, the serum level of MDA decreased significantly at the end of the 6th week compared to that in the beginning of the study (p=0.0004), while in the placebo group, the difference was found to be insignificant. The serum level of MMP9 decreased significantly in the supplement group, while in the placebo group its level increased significantly as compared to that at the beginning of the study (p,0.05)

CONCLUSIONS: that CLA supplementation may be helpful for COPD patients through inhibiting the production of oxidative stress and controlling MMP9 serum levels

CLINICAL IMPLICATIONS: effective

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